



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,494	06/15/2000	Hisayoshi Usui	13700	1390

23389 7590 10/24/2003

SCULLY SCOTT MURPHY & PRESSER, PC  
400 GARDEN CITY PLAZA  
GARDEN CITY, NY 11530

EXAMINER

BRINEY III, WALTER F

ART UNIT PAPER NUMBER

2644

DATE MAILED: 10/24/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/595,494

Applicant(s)

USUI, HISAYOSHI

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

Figures 4-8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the

claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 6 recites the broad recitation “**second data generating means for generating second quality data**”, and the claim also recites “**a decoder for generating the second quality data**” which is the narrower statement of the range/limitation.

Claims 7 and 8 are indefinite due to dependence on claim 6.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukushi (US Patent 5,793,250).

Claim 1 is limited to a **digital portable telephone set having demodulating means for demodulating a received signal, wherein: the demodulating means includes data reproducing means, the data reproducing means having first data generating means for generating first quality data on the basis of the received signal**; Fukushi discloses a frequency offset circuit (figure 2, element 18) that generates the frequency offset  $f_{\text{off}}$  (i.e. first quality data). **Second data generating means for generating second quality data different from the first quality data on the basis of**

**the received signal**; Fukushi discloses a differential detector (figure 2, element 17) that generates phase data (i.e. second quality data) based on a signal received by the antenna (figure 2, element 12). Therefore, Fukushi discloses all limitations of the claim.

Claim 2 is limited to **the digital portable telephone set according to claim 1**, as covered by Fukushi, **wherein the first quality data includes received signal frequency data**; Fukushi discloses a frequency offset (i.e. first quality data and signal frequency data) (figure 2, element  $f_{\text{off}}$ ). Therefore, Fukushi discloses all limitations of the claim.

Claim 3 is limited to **the digital portable telephone set according to claim 1**, as covered by Fukushi, **wherein the second quality data does not include the received signal frequency data**; Fukushi discloses generating  $f_{\text{off}}$  based on the second quality data so inherently the received signal frequency data is not included in the second quality data. Therefore, Fukushi discloses all limitations of the claim.

Claim 4 is limited to **the digital portable telephone set according to claim 1**, as covered by Fukushi, **wherein the second data generating means further generates received data on the basis of the received signal**; Fukushi discloses a phase discriminator (figure 2, element 31) that generates a demodulated data (i.e. received data) (column 7, lines 11-50). Therefore, Fukushi discloses all limitations of the claim.

Claim 5 is limited to **the digital portable telephone set according to claim 1**, as covered by Fukushi, **which further comprises automatic frequency control means for automatically controlling the received signal frequency on the basis of**

**the first quality data**; Fukushi discloses using the value of  $f_{\text{off}}$  to control an automatic frequency control (column 5, lines 50-54), which controls received signal frequency. Therefore, Fukushi discloses all limitations of the claim.

Claim 6 is limited to a **digital portable telephone set having demodulating means for demodulating a received signal, wherein: the demodulating means includes data reproducing means, the data reproducing means having first data generating means for generating first quality data on the basis of the received signal**; Fukushi discloses a differential detector (figure 2, element 17) that generates a difference between symbols that include phase information (i.e. first quality data) (column 5, lines 29-44). **Second data generating means for generating second quality data different from the first quality data on the basis of the received signal**; Fukushi discloses a frequency offset circuit that generates a frequency offset based off the first quality data (i.e. different than the first) (column 5, lines 45-54). **The second data generating means including a correcting circuit for correcting the received signal frequency data**; Fukushi discloses subtracting the frequency offset from the received data to correct for phase distortion (column 7, lines 11-67). **A decoder for generating the second quality data and the received data on the basis of new frequency data obtained in the correcting circuit**; Fukushi discloses the frequency offset circuit which calculates the frequency offset (i.e. second quality data) and a phase discriminator for demodulating the QPSK data from the corrected output of the frequency output circuit (i.e. received data) (column 7, lines 11-67). Therefore, Fukushi discloses all limitations of the claim.

Claim 7 is limited to **the digital portable telephone set according to claim 6**, as covered by Fukushi, **wherein the correcting circuit corrects a frequency deviation of the received signal**; Fukushi discloses a frequency offset circuit (figure 2, elements 18 and 36) that operates to lower the phase distortion of the signal received by the antenna (column 7, lines 11-67). Therefore, Fukushi discloses all limitations of the claim.

Claim 8 is limited to **the digital portable telephone set according to claim 6**, as covered by Fukushi, **wherein the second quality data is used as line control data**; Fukushi discloses using the integrated phase distortion information to drive a switch that selects between two inputs to the phase discriminator (i.e. line control) (column 6, line 65-column 7, line 10). Therefore, Fukushi discloses all limitations of the claim.

Claim 9 is limited to **a digital portable telephone set having demodulating means for demodulating a received signal, wherein: the demodulating means includes data reproducing means, the data reproducing means having correcting means for correcting frequency data of the received signal**; Fukushi discloses a frequency offset circuit (figure 2, elements 18 and 36) that subtracts a frequency offset from the signal received by the antenna (figure 2, element 12). **Data generating means for generating quality data on the basis of new frequency data obtained in the correcting means**; Fukushi discloses a phase discriminator (figure 2, element 31) that generates demodulated data (i.e. received data) (column 7, lines 44-50) and an integrator (figure 2, element 19) that generates phase data (i.e. quality data) (column 5,

line 61-column 6, line 7) based on the output of a subtractor (i.e. correcting circuit) (figure 2, element 36). **Corrected data obtained in the correcting means being used for received signal frequency control**; Fukushima discloses using the value of  $f_{\text{off}}$  to control an automatic frequency control (column 5, lines 50-54), which controls received signal frequency. Therefore, Fukushima discloses all limitations of the claim.

Claim 10 is limited to **the digital portable telephone set according to claim 9**, as covered by Fukushima, **wherein the quality data includes received signal frequency data**; Fukushima discloses that the output of the integrator (figure 2, element 19) contains phase distortion information (i.e. received signal frequency data). Therefore, Fukushima discloses all limitations of the claim.

Claim 11 is limited to **the digital portable telephone set according to claim 9**, as covered by Fukushima, **wherein the data generating means generates received data on the basis of the new frequency data**; Fukushima discloses a phase discriminator that produces demodulated QPSK data selected by the output of the integrator (figure 2, element 19) that produces integrated phase distortion information (i.e. new frequency data). Therefore, Fukushima discloses all limitations of the claim.

Claim 12 is limited to **the digital portable telephone set according to claim 9**, as covered by Fukushima, **which further comprises automatic frequency control means for automatically controlling the received signal frequency according to the corrected data obtained in the correcting means**; Fukushima discloses using the value of  $f_{\text{off}}$  (i.e. corrected data) to control an automatic frequency control (column 5,



lines 50-54), the automatic frequency controller varies the received signal frequency. Therefore, Fukushi discloses all limitations of the claim.

Claim 13 is limited to **the digital portable telephone set according to claim 9, as covered by Fukushi, wherein the correcting means corrects frequency deviation of the received signal**; Fukushi discloses a frequency offset circuit (figure 2, elements 18 and 36) that operates to lower the phase distortion of the signal received by the antenna (column 7, lines 11-67). Therefore, Fukushi discloses all limitations of the claim.

Claim 14 is limited to **the digital portable telephone set according to claim 9, as covered by Fukushi, wherein the quality data is used as line control data**; Fukushi discloses using the integrated phase distortion information to drive a switch that selects between two inputs to the phase discriminator (i.e. line control) (column 6, line 65-column 7, line 10). Therefore, Fukushi discloses all limitations of the claim.

Claim 15 is limited to **a digital portable telephone set including means for demodulating a received signal and reproducing data with control means for line control in the portable telephone set comprising: a phase detecting unit for providing an IF signal as phase data under control of a clock of the reference frequency at a timing of symbol clock**; Fukushi discloses an angle calculator that calculates the phase of a signal at each symbol timing (i.e. symbol clock) (column 5, lines 29-36). **A one symbol delaying unit for delaying the phase data by one**; Fukushi discloses delaying the phase with a latch (i.e. delaying unit) (figure 2, element 17a) for one time period (column 5, lines 37-44). **A first subtractor for obtaining a**

**first difference signal between the phase data and the delayed signal by the one symbol delaying unit;** Fukushi discloses a subtractor (figure 2, element 17b). **A second subtractor for obtaining a second difference signal between the phase data and the delayed signal by the one symbol delaying unit;** Fukushi discloses a subtractor (figure 2, element 36). **On the basis of a correction signal;** Fukushi discloses using the subtractor (figure 2, element 36) with the phase data and the delayed phase data and with a phase offset signal (figure 2, element  $f_{off}$ ) (column 5, lines 45-57). **A correcting means for producing the correction signal on the basis of the first difference signal;** Fukushi discloses using a frequency offset circuit (figure 2, element 18 and 36) with an input from the differential detector (figure 2, element 17) to produce  $f_{off}$  (column 5, lines 45-57). **A first decoder for decoding the first difference signal to produce the received data and a first quality data of a reception line;** Fukushi discloses a frequency offset circuit (figure 2, element 18) that calculates frequency offset (i.e. first quality data) (column 5, lines 45-57) and a phase discriminator (figure 2, element 31) to produce demodulated QPSK data (column 7, lines 7-10). **A second decoder for decoding the second difference signal to produce a second quality data of the reception line;** Fukushi discloses an integrator (figure 2, element 19) that has an input from the second subtractor (figure 2, element 36) to create phase distortion data (i.e. second quality data) (column 5, line 65-column 6, line 7). Therefore, Fukushi discloses all limitations of the claim.

Claim 16 is limited to a **digital portable telephone set including means for demodulating a received signal and reproducing data, comprising: a phase**

**detecting unit for providing an IF signal from as phase data under control of a clock of the reference frequency at a timing of symbol clock;** Fukushi discloses an angle calculator that calculates the phase of a signal at each symbol timing (i.e. symbol clock) (column 5, lines 29-36). **A one symbol delaying unit for delaying the phase data by one;** Fukushi discloses delaying the phase with a latch (i.e. delaying unit) (figure 2, element 17a) for one time period (column 5, lines 37-44). **A subtractor for obtaining a difference signal between the delayed phase data obtained by one symbol delaying unit and the phase data;** Fukushi discloses a subtractor (figure 2, element 36). **On the basis of a correction signal;** Fukushi discloses using the subtractor (figure 2, element 36) with the phase data and the delayed phase data and with a phase offset signal (figure 2, element  $f_{\text{off}}$ ) (column 5, lines 45-57). **A decoder for decoding the difference signal to produce the received data and a quality data of a receipt line;** Fukushi discloses an integrator (figure 2, element 19) that calculates phase distortion data (i.e. first quality data) (column 5, lines 45-57) and a phase discriminator (figure 2, element 31) to produce demodulated QPSK data (column 7, lines 7-10). **A correcting means for producing the correction signal on the basis of the difference signal and supplying the correction signal;** Fukushi discloses using a frequency offset circuit (i.e. correcting means) (figure 2, element 18 and 36) with an input from the integrator that supplies the last symbols  $f_{\text{off}}$  in the form of  $f_{\text{pre}}$  (i.e. difference signal) signal to produce a new  $f_{\text{off}}$  (i.e. correction signal) (column 5, lines 45-57). Therefore, Fukushi discloses all limitations of the claim.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

WFB  
10/16/03

  
XU MEI  
PRIMARY EXAMINER